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Procedia Social and Behavioral Sciences 7(C) (2010) 652–660

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**Procedia**  
Social and Behavioral Sciences

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International Conference on Learner Diversity 2010

# Different Perspectives of Learning Styles from VARK Model

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## Abstract

Teachers have a role in ascertaining the implementation of quality lessons. As such, teachers are required to have capacity to create a learning process which stimulates students, in order to attract attention to the subject taught. This working paper will discuss on the advantages of VARK (Visual, Aural, Reading or Write and Kinesthetic) model as an effective learning style.

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## 1. Introduction

Teachers should be creative in diversifying education techniques in class by being sensitive with students' learning needs. Stimulations will help students to be more attracted to learning session and instantly give attention to the session undertaken by the teachers. According to Bakar (2007) there are five variables which create effective instruction method. They are:

### A. Active Students' Involvement

Active learning activity is very important to the extent that John Dewey, has admitted the importance of this principle by introducing the project method (learning by doing) (Husin & Abdul Aziz 2003).

### B. Attract students' interest and attention

Effective learning method can draw students' interest and attention to the topic being taught. Interest is an effective nature and also the key factor that influences students to learn (Mok 2003; Sulaiman et al. 2004). According to Aris et al. (2002), attention is a temporary attribute which associates attentively with interest. Aris et al. (2002) has categorized attention into two types ; first is centralized attention which focuses to an object, and, the second is distribute attention; which is directed at various objects that exists in the surrounding. A teacher's duty is not only focusing on the instructional materials (centralized attention), but they also need to observe each student and every situation around them (distribute attention;), because this will influence students' attention in implementing teaching and learning process (Dom 2006). Therefore, the combination of these two elements is vital to raise students' interest so that they are able to pay more attention while the process of teaching is executed by teachers and as a result, effective learning will be produced.

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### C. Raising students' motivation

One of a teacher's tasks is to increase students' motivation for the learning process.. There are two types of motivation , namely intrinsic and extrinsic motivation (Ee 1994; Mok 2003). Intrinsic motivation is a stimulation born from within oneself without coercion or inducement from others. While extrinsic motivation is a stimulation influenced by others.

### D. Individual principle

One of the main problems in learning approach is the different levels of individual mastery. Each student has their own diverse understanding and capabilities. Thus, teachers should establish students centered learning, where students can plan their own learning method according to their capabilities. According to Blaugh (1976), teachers should understand the cognitive conditions and attitude necessary in learning, such as students' interests and students' self concept, so that students can attain 75 percent from their lessons.

### E. Displays used in lessons

Lesson display devices, such as teaching aids or audiovisual aids (AVA) are tools used by teacher to present a clearer lesson (Bakar 2007). Lessons which merely uses verbal technique would surely be boring and thus reduce students' interest in following the learning session. Aids would be able to trigger and motivate students to learn.

## 2. Learning Style Definition

Individual learning style refers to style or learning methods used in the process of learning. According to Jantan and Razali (2002), psychologically, learning style is the way the student concentrate, and their method in processing and obtaining information, knowledge, or experience. On the other hand, from the cognitive aspect, learning style can be referred to various methods in perception creation and information processing to form concepts and principles (Fleming & Baume 2006). Lebar and Mansor (2000) states that, learning style refers to a preferred strategy and technique utilized by individuals while studying. This involves individual's tendency to perceive and process information , not learning skills.

Base on Yaakub and Hashim (2004), gave a different view, stating that learning is a mental, physical, and spiritual activity. It is a process that changes one's manner and behaviors, which develops continuously and consistently, thus enabling the individual to use those knowledge and skills for their own progress and also for the society. Whereas Mok (2003), defines learning style as learning approaches as preferred by student.

Meanwhile, Drago and Wagner (2004) identify learning style as differences that exists between individuals over each learning methods. Achievements in educational field depend much on the ability to adapt lesson based on each individual's aspects. A teacher should be creating an environment to fulfill the demand of students' various learning styles, as well as knowing the importance of teaching by using various learning styles (Drago & Wagner 2004).

Yaakub and Hashim (2004) consider style as a way for one to utilize their capability There are various views on learning style concepts and definitions among researchers and each investigates and observes from various aspects such as psychological, environmental aspects by Dunn & Dunn 1978, personality by McCarthy 1987; Kolb 1984, modality by Dunn 1981, experiential learning by Kolb 1984, and brain hemisphere mastery by McCarthy 1987.

These learning styles concepts and definitions show that learning has a cognitive, affective and behavioral characteristics, based on seeing, interacting and responding to methods in learning. Based on all definition that has been given, it can be summarized that learning styles are styles or individual learning technique that act with its environment, to process, interpret and obtain information, experiences or desirable skills.

Learning styles also take into consideration of individual factors such as sex, age, and personality as well as heritage, breed, and environment influence, namely influence from parent's education, culture, community, and school.

## 3. Relation Between Learning Styles with Teaching and Learning Process

Teaching is a process of knowledge presentation and also is an activity meant for student in order to change students' behavior. While learning on the other hand according to Mohamad (2002); Drago and Wagner (2004); Hashim (2005) is an activity which depends on mind. Learning is also a process that is experienced by an individual through experience, knowledge, sense and skill, where by, it brings cognitive changes to an individual's behavior.

Becker et al. (2007) in their study mentioned that although traditional learning method such as lecture, textbook, discussion and so on would be vital and should be practiced in teaching sessions, however, teachers should be able to diversify their teaching styles in order to fulfill each distinctive students' learning styles. At the same time, teachers should also combine different pedagogy strategies in every elements of teaching to meet different learning styles. In a study undertaken by Drago and Wagner (2004) learning styles should have at least four general dimensions:

#### A. Cognitive

Having cognitive aspects touch during individual information processing, by, seeing, thinking, solving problems, remembering, and linking the said information to other matters.

#### B. Affective

In affective dimension, learning is seen by through one's personality. Take into account features such as awareness, emotion, motivation, incentive, curiosity, boredom, concern, and frustration.

#### C. Physiological

Learning from physiological aspect is based on biological features, for example, senses (auditory, visual or kinesthetic) which applies in learning process.

#### D. Psychological

Learning is seen from the aspect in which it is linked to internal strength and one's individuality.

Alias et al. (2005) states that in learning process, student diversity is a factor which needs to be taken into consideration by teachers. Teachers should be aware that before planning their teaching process and assessment in classrooms, they should consider first of this diversity factor. Teachers must create the right ambience with students' academic achievement and their needs, so that, various learning experience structure are assignable to all students. This includes diverse learning style such as visual, auditory, aural or kinesthetic.

Student difficulties in mastering knowledge have resulted in various researches to overcome the problem. A study that was carried out by Fleming and Baume (2006) shows that some learning style critics declare that by knowing individual learning style, actually cannot help to improve learning. Fleming and Baume (2006) then replied to those criticisms by saying that information on individual learning styles benefits when that student take further action, besides considering how and while they learn, as part of a reflective meta cognitive process, with further action to be reckoned. In brief, no one can understand fully on their own learning technique through learning style inventory.

Drago and Wagner (2004) in their study proposed that instruction method in classes to be diversified in order to meet all students requirements. This opinion is disagreed by Murphy et al. (2004), whom found out that not all teachers agree that by adapting teaching style to a distinctive or prioritizing learning, can increase students' knowledge gaining. Some researchers proposed that the more likable priority mode may not be the best way to study, where by, it depends on certain situation (Murphy et al. 2004).

Murphy et al. (2004) opinions are supported by an earlier study by Fleming and Mills (1992). In that study, Fleming and Mills (1992) states that through their experience as instructors for teachers for nine years, it is less realistic to expect teachers to provide programs that can accommodate the learning styles diversity aspects in each individual students, in every class taught. In their opinion, the most realistic approach is by encouraging students' involvement to adapt their learning habit to the learning programs that they experience, obtaining knowledge or information based on their own distinctive learning styles (Fleming & Mills 1992).

Students learn using various methods, whether by perceptively, by hearing, by behavior, by reaction and by various other ways. Whereas for teacher different teaching styles methods are used, whether through demonstration,

discussion, lectures, etc. Basically, teachers' teaching styles are predicated to students learning styles (Stitt Gohdes 2003).

Many teachers boast in good teaching techniques but in the actual teaching situations, they are not able to present with the best method to students. This is because an average teacher binds with formal teaching styles and more structured class activities Yusoff (2007). Therefore, students should explain to teachers on the teaching styles that they are comfortable with and need, to enable them to understand better. Teachers too must be more motivated in ascertaining suitable teaching styles.

Among the reason on why students learning style becomes ineffective is caused by teachers who do not acquire the skills in learning theory. This happens when teachers barely possess little knowledge and do not understand students' learning styles. When students' learning styles are compatible with teachers' teaching styles, students will be more motivated, thus, this will increase their academic performance (Miller 2001; Still Gohdes 2003).

According to Rahmat and Samsudin (2005), students should be given the opportunity to study in distinctive situations and presentation methods until they are capable to identify the most suitable technique and their own individual learning style. This is because a correct and effective learning style can really help students to gain achievement in their learning.

Based on a study by Bryant (2000); Hein and Budny (2003); Burgess and Hanshaw (2005), they found out an encouraging increase achieved after the implementation of lessons based on learning styles that teachers identify with. However, if students have own effective learning styles, the technique or teaching styles for learning process becomes uninteresting or ineffective, where it also can affect students' achievement.

Hence, not all teaching styles should be tuned in with students' learning styles. It depends on age, schooling level, and subjects taught (Spoon & Schell 2001). Teaching strategy and implementation have their own value and can be modified, depending on the educational system. It covers on lesson, discussion, and various different styles. Therefore, to ensure learning effectiveness, teachers should adjust their teaching styles with the students' learning styles.

#### **4. Relation VARK (Visual, Aural, Reading or Write and Kinesthetic) Learning Style Model**

Learning style is a cognitive composite, affective, and psychological factor which act as an indicator on how individuals interact and respond to learning environment (Duff 2000). When a student shows more thought in regard to learning strategy, this illustrates the existence of personal distinctive learning style Yusoff (2007). According to Wintergerst in Yusoff (2007), there are individuals who has more than one type of learning styles.

This is consistent with views from Friedel and Rudd in Yusoff (2007), which states that an individual may have more than one learning style or else known as bimodal. It is an advantage to anyone who has more than one type of learning style, because, those individuals possess more flexible views and acceptance of their learning environment.

There are many models on learning styles that can be identified from earlier studies. Among them are models that emerged from earlier researchers, such as learning styles models by Salmes, Felder-Silverman, Dunn & Dunn, Kolb, Honey and Murnford, and VARK (Visual, Aural, Read or Write and Kinesthetic). According to the Malaysian Education Ministry (2008), there are two learning style models that are commonly used; Dunn & Dunn and VARK.

VARK learning style model is learning style that has been modified from VAK model, to VARK learning style by Fleming in 2006. This learning style is modified by classifying students to four different modes. The modes based on different senses, namely visual, aural, reading, and kinesthetic, and the name of the model itself, originated from those senses prefix letters (V, A, R, and K). According to Ismail (2010) dividing students according to mode is necessary so that the effectiveness of each lesson to different VARK learning mode can be observed.

Based on Fleming (2006), aural mode students tend to attain information by discussion and listening. For reading mode, these students have the ability to accept and interpret printed information. For visual mode, the students are more prone to accept learning through interpreting charts, graph figures, and pictures. While kinesthetic mode leans more towards accepting learning based on behavior such as touch, feel, see, and listen. Based on each mode's tendency, researcher hopes to conduct a study to obtain students' feedback on computer based learning.

In study that was conducted by Fleming (1995), shows that one's interests to seek information does not necessarily equal with the tendency to convey information to others, although actually, both matters are connected with each other. However, in study undertaken by Fleming and Baume (2006) shows the teacher's teaching method

would reflect the tendency of their own learning style compared to the students' learning style. Whilst research by Thomas et al. (2002) on the other hand, shows learning style is important in increasing the understanding and achievement of each subject.

Murphy et al. (2004) added by saying that learning based on VARK learning style model provides a medium for self-knowledge and exploring opportunities in classrooms, thus, making a more productive learning experience and enjoyment among students.

According to Drago and Wagner (2004) it has been proven that students possess diversity in learning styles, which has become their priority, and teachers should effectively deliver the course according to the students' needs. The research done investigated on four physiological elements in each popular typology, namely VARK learning style.

#### A. Visual

Students predisposing with this style are likely to be provided with demonstration and can learn through description. These students prefer to use list to maintain their advance rate in learning as well as arranging their ideas and mind. Apart from that, visual students are easy to be disturbed or change in focus by movements or actions, where as, noise, usually do not bother them (Drago & Wagner 2004).

Moreover, visual students like to use figures, pictures, and symbolic tools such as graph, flowcharts, hierarchies, models, and arrow which represent printed information. They also are able to explain a concept to others by drawing a figure or picture (Murphy et al. 2004).

Miller (2001) in his study explain that as much as 29 percent of the students are more inclined to visual learning style where they possess intelligence in using pictures, and optical illusion and models in three dimensional form. Students that have visual intelligence are usually rich with imagination and are inclined to be creative and imaginative (Piping 2005).

#### B. Aural

Aural students learn something by listening (Drago & Wagner 2004). These students give more attention to the words delivered by teachers. They prefer to listen than writing lecture notes. After lectures end, they choose to discuss topics which were taught with classmates, as a way to clarify their understanding.

To aid with their learning style, aural students discuss on answers or by listening to recording over the examination topics (Murphy et al. 2004). Students who learn with this mode are easily interrupted noise (Drago & Wagner 2004).

According to Miller (2001), this type of students can remember information through loud reading or mouthing when reading, especially when learning something new. Students can strengthen their memory by listening again to audio tape recordings, by teaching other people and discussing with teachers. Aural students usually read easily, narrate cleverly, write story or poetry effortlessly, learn foreign language fast, have good vocabulary, spell smoothly, like to write letters, and own strong ability in remembering names or facts (Armstrong 2004).

#### C. Reading

Students with the tendency of reading prefer printed word and text as a method to gain information. They like list, glossary, textbooks, lecture notes, or circulation. These students like to arrange lecture notes into sketch form, paraphrase classroom notes, and study multiple choice exam questions (Murphy et al. 2004). Besides that, according to Drago and Wagner (2004), these students are note takers. They study better through note taken from lecture or from difficult reading materials.

#### D. Kinesthetic

Although measured as a separate category in VARK, learning through kinesthetic is a measurement mode, regarded to the combination of various sense functions. Priority kinesthetic referring to learning achieved using experience and practice. In other words, kinesthetic students should go through experience to learn something (Murphy et al. 2004).

Drago and Wagner (2004) describes the characteristics of predisposing kinesthetic students as those who emphasize more in experience in learning something and usually, they have high energy and prefer to apply touch,



movement, and interaction to their environment. Apart from that, these students dislike learning merely by listening and visual skills, and, typically, kinesthetic students are passive in class (Drago & Wagner 2004).

According to Armstrong (2004), students that possess this type of intelligence are fond to move and are active, quick in learning physical skills, fond to think while moving, perform well in certain athletic field, more likely to use movements as an aid for remembering various cases, have good coordination and awareness on tempo, and are easy to relax.

Wolfman and Bates (2005), on the other hand, view kinesthetic learning style as able to increase students' learning motivation. Piping (2005) in his study also has proven that VARK learning style can enhance students' understanding as well as raise learning motivation and interest among students.

## **5. VARK Learning Style in Learning Process**

Research by Bachok et al. (2000) discovers that students have different learning style practice, in which unsuitable lessons and learning style usage can effect to students' learning and behavior quality in class. Prithard (2005) found out that good learning not only depends on students' learning style, but also depends on teaching materials used. Therefore, production of teaching materials need to be heavily based on students' learning styles.

However, there was also an opinion that states that education approaches which are used by teachers are vital to attract students' interests. According to Yahaya (2007), educators have to use more proactive and responsive education approaches on target groups. With different education approaches, educators should be able to give opportunities and experiences to students of different backgrounds of learning styles (Yahaya 2007). This opinion is supported by Adaptive Learning Theory. According to this theory, students have distinctive learning styles, so any system that is built based on this theory, needs to vary its lesson strategies (Ismail 2008). Hence, the ability of teachers and computer's capability in integrating multimedia technology would be able to diversify teaching strategies to fulfill different students' demands. While according to Preferred Sensory Modality Theory by Ismail (2008), it states that each student has different acceptance abilities that is based on certain senses.

There are students with better reception ability through stimulation process of the brain compared to visual sense, and there are students who can receive better information through contrast stimulation, such as, combination of the visual and hearing senses. According to Ismail (2008), some students prefer to receive information in text form, whereas, some prefer in image, graphic, or animation form. Therefore, VARK learning style model that will be discussed next can illustrate and further strengthen the multimedia courseware application's role during teaching and learning process, as an instructional material.

From the results from study undertaken by Fleming (1995), it has been discovered that the mode that is most commonly used in learning process is speech mode and this is represented as aural mode. Besides that, Fleming (1995) in his study has mentioned that in a higher-education system, kinesthetic mode has the least tendency molded by teachers in teaching. Students who are inclined to kinesthetic, said that teachers need to work and research on experience element, which is, certainly seldom used in teaching sessions by teachers.

Fleming and Mills (1992) also expressed that multimedia courseware strengths are based on VARK learning style model, that has been developed from the aspect of its ability to act as catalyst and framework for picture and discussion, through exercises in learning such as taking notes, noting, and study for test and examination. Apart from that, the learning material can provide one consistent learning framework, and intuitive ideology on the method of connecting information in learning situation.

Hence, students do not have problems accepting the ideology that in the method of taking and making notes, it should be parallel with the priority their modality where, finally it will bring benefit to them in effective learning. At the same time, students also experience multimedia courseware that are based on VARK learning style model during learning process through activities that can encourage their cognitive and motivation.

Based on Fleming (2006), students have the strength and distinctive tendency in accepting learning. However, teachers are unable to prepare suitable instructional materials, according to the different needs of students' learning styles, due to time factor. According to Virleen (2010), the characteristics in VARK learning style model can be used to help producing teaching materials, especially. software for multimedia course based on VARK learning style model, which are suitable and intrigues students to make effective learning process, indirectly.

VARK learning style model has been adjusted with four learning mode namely visual mode, aural mode, reading mode and kinesthetic mode. It is based on those modes, where students can make choice of which is the most suitable learning mode for them during learning process. Refer to Table 1.

Table 1. The tendency in learning process base  
on VARK mode

<b>Mode</b>	<b>Tendency in learning process</b>
Visual	Learning by looking at pictures, graphs, videos, and graphics. Could not take complete note during presentation.
Aural	Receive learning by listening method, by speaking or from music, discussion, and explanation.
Reading	Prefer words and texts as an information obtaining method. They like presentation style, by text or writing.
Kinesthetic	More likely to experience through physical movement aspect while studying, such as, touch, feel, hold, perform and move something. They prefer hands on work, practical, project, and real experience.

In a study by Larry and Marie (2005), on the tendency of students who used VARK in multimedia elements, discovered that visual students are more prone to use text and graphic in multimedia element. Aural student prefer using text and graphic and also audio application in multimedia element. While kinesthetic students are more inclined to use text and graphic through assignments in which requires act or hands on work. That study also did a research on the tendency of students leaning style using senses on each mode.

## 6. Conclusion

Zhang (2002) believes that to observe effectiveness and students' acceptance to learning that applies in teaching and learning process depends on students' learning style. Zhang's (2002) opinion is parallel to Byrne's (2002), where his study also found out that students' achievement on e-studies rely on students' learning style. This obviously shows that learning style is vital in giving alternative to students to choose their own distinctive learning style so boredom does not arise during learning process.

Based on to what has been discussed, as the conclusion, VARK learning style does not involve intelligence or inherent skill but is closely related to how we acquire or understand information or new knowledge. VARK learning style also can be perceived as an individual method that one uses for the purpose of acquiring knowledge, positive skills and attitude. As such, VARK learning style can create a fascinating learning environment to students and stimulate students' senses in learning.

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